**Understanding Suicide and Self-Harm:**
Case Studies by the Population Psychiatry, Suicide, and Informatics (PPSI) Team at Swansea University

# Contents

## About the Population Psychiatry, Suicide and Informatics (PPSI) team

Our PPSI team is a thriving mental health research team, led by Prof. Ann John, with over £40M in joint funding over the last five years. The team applies epidemiology, analytical and programming expertise to answer mental health-related questions which result in the publication of research findings as policy briefings and high-impact journal papers. We are a diverse research team, which brings together expertise from fields including data science, engineering, psychology and epidemiology to deliver world leading research with a focus on its translation into policy and practice. We have received funding from MRC, Wellcome, The Wolfson Foundation, MQ, Samaritans , Welsh Government and the NHS Executive.

Prof. John co-leads the Swansea University Suicide Prevention and Mental Health Research Institute which brings together a unique mix of disciplines and expertise- social science, , psychology, psychiatry, public health, geography, data science, forensics, law and arts- to conduct innovative research in suicide prevention and mental health to inform underlying mechanisms, interventions and cross-government policies and toprevent and mitigate the effects of mental health problems and suicidal behaviours, particularly in marginalised and underserved groups.

## Objective of the Studies

This report includes a series of case studies presenting research conducted by the team using Wales routinely collected data to enhance our understanding of suicide and self-harm.

Published Case Studies

# Self-harm and healthcare over time in children and young people

## THE PROBLEM

Self-harm is a major public health concern. It is not rare in young people. One in four girls and one in seven boys aged 14 who responded to a survey said they had self-harmed in the previous year. The importance of giving young people who self-harm the right care and support cannot be understated.

Young people aged 10-19 with a history of self-harm are more than ten times as likely to die of unnatural causes and seventeen times more likely to take their own lives. They spend less time in school due to absences and exclusions. They are also more likely to have a range of other negative physical and mental health outcomes. If we can offer young people the right care and support, it is possible to change, and even save lives.

## THE RESEARCH

The team used routinely collected healthcare data for the whole population of Wales to learn more about how children and young people use healthcare services for self-harm, and whether this has changed between 2003 and 2015. They wanted to learn more about how many see their GPs, go to emergency departments, are admitted to hospital or are seen in outpatients. The team also investigated whether there were differences according to sex, age or level of deprivation/affluency.

## THE RESEARCHERS

**Dr Amanda Marchant**
Senior Research Analyst

**Professor Ann John**
Principal Investigator

*"Our study reveals high rates of presentations with self-harm in primary care and among young males in emergency departments. The difference in admissions from emergency departments between boys and girls is important. We must make the most of emergency departments attendances to offer help."*

*Dr Amanda Marchant*
*Senior Research Analyst*

## THE OUTCOMES

- GPs were an important source of help and support. Children and young people discussed self-harm with their GP more than during contacts with any other healthcare setting.
- Over time, emergency department attendances increased for 10-19 year olds and hospital admissions increased for 10-14 year olds.
- Boys and young men tend to seek help from emergency departments more than from any other healthcare setting.
- Girls were more likely than boys to be admitted to hospital after attending emergency departments for self-harm. This was true even for those aged under 16, for whom clinical guidance always recommend admission for a full risk assessment.

## THE IMPACT

This study highlights the importance of GPs and emergency departments in supporting young people who self-harm, especially for boys and young men.

Professionals from emergency departments need to be aware of the existing bias in the criteria for hospitalisation of boys presenting with self-harm.

Any contact with healthcare services is an opportunity to help a potentially vulnerable young person, and it is important that we make the most of these opportunities. Doctors and healthcare workers need to have the right information and support to be able to offer young people the support they need and to decide when referral to more specialist care is needed.

## LIMITATIONS

Although this study examines self-harm across healthcare settings using information based on a large proportion of the population of Wales, it also has limitations. First, we cannot be sure a hospital admission was a direct result of an emergency department attendance with self-harm. Second, we were unable to study important factors, such as severity and the method of self-harm. Third, it is likely we did not find all emergency department presentations with self-harm, as there are known quality issues in the recording of these events. The same can be said in general about routinely collected data. This means our results reflect recorded healthcare presentations with self-harm, not all self-harm events in the community.

*" This study showed that it is likely that responses from services to males and females, even as children, who have self-harmed and are in distress may be different. We very much focus on improving help-seeking for males but we also need to think about what happens when they do"*

Professor Ann John
Principal Investigator



**To read more about this study, <u>click here</u>**

# Study finds higher risk of self-harm behaviours following bullying at school

## THE PROBLEM

Self-harm behaviour is common among children and young people, and there is a growing body of research on the relationship between bullying victimisation and self-harm. Unfortunately, most of these studies looked at data at a single point in time, relied on self-reported, unvalidated measures of self-harm, and failed to distinguish between the impacts of in-person bullying and cyberbullying. This study filled such gap by using routinely collected healthcare data as well as self-reported data to examine the relationship between bullying and subsequent self-harm, differentiating between in-person bullying at school and cyberbullying victimisation, and considering a range of other important factors such as mental health status.

## THE RESEARCH

The team used data from the Student Health and Wellbeing Survey in Wales obtained in 2017 for school pupils aged 11-16 years. This survey asked pupils about their bullying and cyberbullying experiences as well as other details of their life. At the same time, the team extracted self-harm and other mental health issues from routinely collected data from primary care, emergency departments and hospitals. These data were then linked to compare the risk of future self-harm for school pupils that are 1) not bullied 2) in-person bullied at school only, 3) cyberbullied only or 4) both in-person bullied at school and cyberbullied.

## THE RESEARCHERS

**Professor Ann John**
Principal Investigator

**Dr Sze Chim Lee**
Senior Research Data Scientist

"Lots of studies about bullying and self-harm are snapshots taken at one time- here through linked data we were able to look at what happened to young people who had been bullied'"

Dr Sze Chim Lee
Senior Research Data Scientist

MQ Mental health research

Adolescent Mental Health DATA PLATFORM

UKRI Medical Research Council

SAIL DATABANK

## THE OUTCOMES

- Approx. 1 in 3 pupils reported being bullied, with the most common form of bullying being in person at school only, followed by both in-person and cyberbullying.
- We found that pupils who experienced in-person bullying at school were twice as likely to self-harm as those who did not, even after considering other risk factors for self-harm.
- When considering all other risk factors, cyberbullying did not seem to increase the risk of future self-harm.
- Like in-person bullying, loneliness also doubled the risk of future self-harm.

## THE IMPACT

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| | This study emphasises the impact of in-person school bullying and other risk factors like female sex and loneliness, on the risk of future self-harm in secondary school pupils. Schools and other professionals working with adolescents should be aware of these risk factors when offering mental health and wellbeing support. |
| | The roles of bullying perpetrators and victims can be complicated and dynamic. The needs of both bullies and their victims should be taken into consideration in intervention and programmes aimed at preventing bullying. |
| | Efforts to prevent loneliness, including during the summer months, are also necessary to prevent self-harm in adolescents and could be incorporated into a whole-school strategy. Pupils should also be encouraged to come forward and seek help especially in cases of cyberbullying, which may not yet be widely understood. |

## LIMITATIONS

This study has some limitations, including: the lack of a standard measure of bullying; the potential relationship between bullying itself and the other included risk factors; the underrepresentation of self-harm in clinical data; and quality issues in routinely collected data. We designed our analysis plan with the aim of alleviating the effect of these limitations, but they should be kept in mind when interpreting the results.

"This study reaffirms that bullying is associated with self-harm. In comparison to their peers who were not bullied, pupils were twice as likely to self-harm with one year after such incidents.

Interestingly we also showed strategies to reduce loneliness over the summer holidays should also be included along with tackling in-person bullying in self-harm prevention interventions for young people."

Professor Ann John

# A large study in Wales finds a strong connection between school absence and exclusion, and self-harm and mental health conditions in children

## THE PROBLEM

Poor school attendance is associated with a range of negative outcomes across the life course, including poor educational attainment, unemployment, and poverty. Pupils with mental health and neurodevelopmental disorders (e.g., ADHD, autism) or who self-harm are more likely to miss school through absenteeism and exclusion than their classmates. Currently rates of exclusion in England are rising, highlighting the importance of school-based policies aiming to improve behaviour and support teachers.

## THE RESEARCH

The team linked routinely collected and de-identified educational data to demographic, primary and secondary health care datasets, creating a population-wide cohort of 437,412 pupils aged 7-16 between 2009 and 2013 in Wales. They also identified a wide range of clinically diagnosed and recorded mental disorders up to the age of 24, including presentations with self-harming behaviours.

## THE RESEARCHERS

**Professor Ann John**
Principal Investigator

**Dr Yasmin Friedmann**
Senior Research Data Scientist

*"Children with poor mental health, who are neurodiverse or who self-harm often struggle at school. Health and education professionals, services, and policy makers should be aware that children with poor attendance may be experiencing emotional ill-health whether this is diagnosed while in school or into early adulthood."*

Professor Ann John
Principal Investigator

## THE OUTCOMES

- The team found that pupils who self-harm or have a mental health condition are more likely to miss school because of being excluded or due to absence. This is true but to a slightly lesser extent for pupils who also have a special educational needs (SEN) status.
- Rates of absences are higher for older children, for more deprived children and for those with mental health comorbidities.
- The study found that children and young people who have a record of self-harm, or who were diagnosed with a neurodevelopmental disorder or mental disorder before 24 years of age were much more likely to miss school than their peers.
- Exclusion or persistent absence are potential indicators of current or future self-harm and poor mental health that are routinely collected and could be used to target assessment and early intervention.

## THE IMPACT

1. Attendance and exclusion data, that is already collected by schools, could provide useful information about where to focus limited resources. School-based mental health prevention strategies may also help build resilience, enabling pupils to develop strategies for managing and improving their mental health and wellbeing as well as to understand when and how to seek additional help.

2. The study identified important differences between genders. The findings align with the view that boys externalise mental distress through their behaviour, which in turn impacts the school environment and results in their exclusion, whereas girls, and especially those with emotional disorders or delayed diagnosis of neurodevelopmental disorders, tend to be more anxious and withdraw from social contact.

3. There is growing interest in school-based prevention and early intervention programmes which focus on improving the school environment and culture for reducing adolescent mental health problems. Having SEN status reduced the likelihood of being absent or excluded, most notably for those with records of neurodevelopmental disorders or bipolar disorder, compared with those with a record but no SEN status, potentially highlighting the positive impact of recognition, diagnosis, and educational interventions.

## LIMITATIONS

This study had some limitations that need to be considered. Firstly, we did not consider physical comorbidities to facilitate the interpretation of our results. However, we note the strong linkage between mental and physical health, and some of the absences would have been due to physical comorbidity and medication. Secondly, our results may underestimate the effect of mental health difficulties in absenteeism and exclusions, as younger children with symptoms may not meet the criteria for diagnosis and may have had less time to receive a diagnosis. Thirdly, we were unable to identify the direction of causation between absences and exclusions, and mental disorders, and further research should focus on this.

**To read more about this study, click here**

# Help seeking and opportunities for intervention in the year before dying by suicide

## THE PROBLEM

Suicide is a significant public health challenge, with profound impacts on individuals, families, and communities. Despite efforts to reduce suicide rates, there is still a pressing need to better understand the factors contributing to suicidal behaviour and identify effective prevention strategies. One key area that warrants exploration is the role of healthcare contacts leading up to suicide. Many people who take their own lives have some form of contact with healthcare services prior to their deaths. However, existing studies have often focused on specific settings, such as psychiatric hospitals, and have not provided a detailed picture of healthcare contacts across different levels of care. This knowledge gap hinders our ability to develop targeted interventions and support systems.

## THE RESEARCH

Our study examined the relationship between primary and secondary healthcare contacts and suicide deaths. We analysed routinely collected electronic healthcare records from Wales, 2000 to 2017, comparing individuals who died by suicide (5,130 people) with a those that did not (a randomly matched group of 25,650 people). We included people from all age groups and individuals with and without prior mental health diagnoses. We focused on healthcare contacts that took place in the 12 months preceding each person's death. Our analysis method studied risk factors for suicide while accounting for things like deprivation. Through this analysis, we gained important insights into the connection between healthcare contacts and suicide, informing potential intervention and prevention strategies.

## THE RESEARCHERS

**Professor Ann John**
Principal Investigator

**Marcos Del Pozo Baños**
Senior Researcher

> *"This study sheds light on the importance of understanding patients' help-seeking behaviours in the time leading to suicide. It shows that we are missing opportunities for intervention, especially in primary care. This underscores the need to improve our ability to identify those at risk, both through research, and through dedicated training for healthcare professionals."*
>
> Dr Marcos del Pozo Banos
> Senior Researcher

To read more about this study, click here

## THE OUTCOMES

- **Escalation of events:** People that died by suicide were more likely to contact healthcare services in the time closer to their death, indicating an escalation of events leading to a major crisis and a fatal suicide attempt.
- **More healthcare contacts:** At any given week in the year before their death, people who died by suicide had higher rates of contacts with healthcare services than those who did not.
- **Primary care:** Most people who died by suicide had their last healthcare contact with primary care, with mental health mentioned in 1 out of 10 of these contacts.
- **Emergency department and hospital admissions:** Differences in healthcare contacts between people that died by suicide and those that did not were larger in emergency department and hospital admissions.
- **Strong links to suicide:** Contacts involving self-harm, mental health, and substance misuse were strongly associated with suicide.

## THE IMPACT

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| | **Policy:** This study highlights the need for better suicide prevention strategies. Policy changes should focus on understanding patients' patterns of healthcare contacts and ensuring comprehensive assessments in primary care. |
| | **Practice:** Primary care professionals need to consider patients' interactions with other healthcare services when assessing their risk of suicide. There is a need for therapeutic conversations, suicide risk assessment, and follow-up evaluations after emergency department or hospital discharge. |
| | **Patient Care:** Help-seeking behaviours are evident in individuals at risk of suicide, especially in the weeks before death. Identifying markers like previous suicide attempts, sleep disturbance, and chronic pain can aid intervention efforts. Females, in particular, may benefit from targeted interventions related to alcohol and drug misuse. |
| | **Research and Innovation:** Given the complexity of the mechanisms underlying suicide and suicidal behaviours, advanced machine-learning techniques may improve our understanding of suicide risk and identify new factors. Developing clinical decision support tools and enhancing training for health professionals without mental healthcare training are important for improved suicide prevention efforts. |

## LIMITATIONS

Like all studies based on routinely collected data, there are some limitations that should be kept in mind when interpreting the results. Firstly, routine data may not always be completely accurate, nor is equally complete across all people. Secondly, in primary care there was some uncertainty when differentiate between patient-clinician contacts and administrative records. Lastly, some of the factors missing in our analysis may be strongly linked to suicide, affecting our results.

*"This study highlights how help-seeking escalates prior to suicide and how important primary care is to suicide prevention. Good communication between primary, emergency and secondary care settings is crucial for suicide prevention."*

Professor Ann John
Principal Investigator

**To read more about this study, click here**

# Understanding the Relationship Between Eating Disorders, Self-Harm, and Patient Outcomes: Insights from a Large Study Using Electronic Health Records

## THE PROBLEM

People with eating disorders who self-harm are especially vulnerable, and struggle with more severe issues and poorer outcomes. This study explored how these individuals use healthcare services and what their risk of death is. Its aim was to better understand the specific healthcare needs and risks of these patients. This knowledge can help improve support and provide appropriate care for people facing the challenges of both eating disorders and self-harm.

## THE RESEARCH

We looked at information on over 82,000 individuals with eating disorders and/or self-harm between the ages of 10 and 64 from 2003 to 2016. People were divided in three groups: those who self-harmed only, those with eating disorders only, those who both self-harmed and had eating disorders. We then checked healthcare records from primary care, emergency rooms and hospitals to see how often these people went to get medical help. We also checked if any of them died during this time.

## THE RESEARCHERS

**Professor Ann John**
Principal Investigator

**Dr Amanda Marchant**
Senior Research Analyst

*"This study showed how important it is to provide the right support for individuals who have a record of both self-harm and eating disorders. This is especially important for younger people who are at an increased risk of mortality. Ealy intervention and having access to mental health support is important for improving outcomes and reducing risks"*
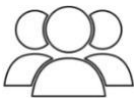
Dr Amanda Marchant
Senior Research Analyst

MQ Mental health research    Adolescent Mental Health DATA PLATFORM    UKRI Medical Research Council    SAIL DATABANK

**To read more about this study, click here**

## THE OUTCOMES

- People who self-harmed and/or had eating disorders had more healthcare visits and a higher risk of mortality compared to the general population.
- The group who self-harmed and had eating disorders had the highest number of healthcare visits and were more likely to die at a younger age, particularly for unnatural causes of death and suicide
- The group who self-harmed only (without eating disorders) had the highest overall risk of death during the study

## THE IMPACT

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| | <li>We need to provide better support for individuals with self-harm and eating disorders.</li><li>Getting help quickly and having access to mental health support is important for their well-being and reducing risks.</li> |
| | <li>We should focus on mental health policies that prioritise self-harm and eating disorders and provide resources for intervention programs and better access to care.</li><li>Policies should promote coordinated care and integrated services to address the high healthcare needs of these individuals.</li> |
| | <li>Healthcare providers need to understand the increased healthcare needs and risks faced by individuals with self-harm and eating disorders.</li><li>They should take a holistic approach, integrating physical and mental health care, and providing follow-up and support.</li><li>Collaboration between different healthcare settings is important for comprehensive care.</li><li>Early identification, prevention, and intervention can make a big difference in reducing risks and improving outcomes for these individuals.</li> |

## LIMITATIONS

The study has some limitations. It relies on healthcare data with some coding consistency issues in emergency department records. Although we included a large population of individuals, eating disorder diagnoses are quite rare meaning that numbers were too small to explore some finer details such as eating disorder subtypes. Both eating disorders and self-harm are often hidden and this research reflects healthcare interactions, and will not pick up cases where individuals don't seek help. This emphasises the need for wider community studies to better understand and support self-harm and eating disorders that might not be picked up by healthcare settings.

*'This research supports previous calls for self-harm assessment and self-harm focused interventions in people with eating disorders. It highlights the complex needs of people with multiple diagnoses and behaviours.'*

Professor Ann John
Principal Investigator

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**To read more about this study, click here**

# Understanding Self-Harm and Healthcare Interactions during COVID-19: A Study on Health Records in Wales, UK (2016—March 2021)

## THE PROBLEM

When the COVID-19 pandemic started, people were worried about the impact it might have on mental health. The media suggested that self-harm and suicidal behaviours could increase during the pandemic, while research generally found a decrease in healthcare contacts with self-harm. In the UK, there was an initial drop in primary care visits and referrals for self-harm, but they later went back to normal levels. However, at the time existing studies only looked at specific settings and groups of people, and mostly focused on the first wave of the pandemic. To get a better understanding, we looked at data from different healthcare settings in Wales, UK, throughout the first two waves of the pandemic and compared this to the years before the pandemic.

## THE RESEARCH

We used data from 3,552,210 people living in Wales, of age 10 years and older, between January 2016 and March 2021. We looked at contacts with primary care, emergency department visits and hospital admissions, and identified those where self-harm was recorded. We compared healthcare contacts with self-harm during the pandemic with those before.

## THE RESEARCHERS

**Marcos Del Pozo Baños**
Senior Researcher

**Professor Ann John**
Principal Investigator

*"Fear of infection, stay at home orders and 'protect the NHS' may have discouraged people who self-harmed from accessing healthcare services during the COVID-19 pandemic. We need to encourage open communication and promote help seeking, to ensure that people who self-harm receive the help they need."*

Dr Marcos del Pozo Baños
Senior Researcher

HDRUK Health Data Research UK    MQ Mental health research    UKRI Medical Research Council    SAIL DATABANK

To read more about this study, click here

# THE OUTCOMES

- The number of self-harm contacts decreased in March and December 2020 compared to previous years.
- In primary care, contacts for self-harm decreased more than for other reasons.
- Self-harm contacts decreased less than non-self-harm contacts in emergency departments during April 2020, and in hospital admissions during April-May 2020.
- In April 2020, people who self-harmed were more likely to seek help in primary care than in previous years.
- In December 2020, individuals who presented with self-harm to emergency departments were less likely to be admitted to hospital than in previous years.

# THE IMPACT

During the COVID-19 pandemic, it may have been harder for individuals who self-harmed to seek help, particularly in primary care and for young women and older men.

Campaigns, such as "Protect the NHS", should avoid discouraging people who self-harm or with mental health difficulties from contacting healthcare services.

During pandemics, policymakers should ensure sufficient resources and support across healthcare services to provide appropriate assessment and interventions to those who present with self-harm.

# LIMITATIONS

Results from this study should be interpreted in context of its limitations. We used a measure of deprivation was based in pre-pandemic data and does not consider how the pandemic might have changed factors like income and employment. The study can imply cause and effect if specific conditions are satisfied, but verifying these conditions is challenging. Significant factors such as financial status and social isolation were not fully considered, making the causation link less certain.

*"In any future pandemic, we need to think about the unintended consequences of changes in healthcare provision and broadcasted messages, particularly for those experiencing mental health conditions and those who self-harm. Missing out on talking therapies, psycho-social assessments and safety planning may negatively impact people's future trajectories."*

Professor Ann John
Principal Investigator

# COVID-19's Impact on People Who Self-Harm: A Closer Look at Rising Mortality Rates

## THE PROBLEM

We know that COVID-19 took many lives. However, the circumstances surrounding the pandemic, such as healthcare provisions and social isolation, had widespread effects in people's health that may have also impacted death rates. Mortality for people who self-harm was higher than for the general population prior to the pandemic, but there was little data about change in mortality during the pandemic. We set to study whether the COVID-19 pandemic changed the risk of death for people who self-harm.

## THE RESEARCHERS

**Dr Sze Chim Lee**
Senior Research Data Scientist

**Professor Ann John**
Principal Investigator

## THE RESEARCH

Using routinely collected information between April 2016 and March 2021, we compared the mortality risk between 2.6 million people aged 10 and older who self-harmed and those who did not, before and during the COVID-19 pandemic (including Waves 1 and 2) in Wales, United Kingdom. We linked data from multiple sources to obtain a more complete picture of each person's circumstances, including their demographic and health details.

*"During the COVID-19 pandemic, it was really important to provide support to people who self-harmed. This study reminded us of the urgent need to focus on mental health and provide specific support."*

Dr Sze Chim Lee
Senior Researcher

HDR UK — Health Data Research UK

Ymchwil Iechyd a Gofal Cymru — Health and Care Research Wales

UKRI — Medical Research Council

SAIL DATABANK

## THE OUTCOMES

- The number of deaths during the pandemic increased for people who self-harmed and people who did not.
- The increase in mortality observed during the pandemic was larger in people who self-harmed, resulting in a widening mortality inequality between people who self-harm and people who do not.
- Deaths for unnatural causes and suicide dropped during the pandemic, but more so in the group of people who had self-harmed.

## THE IMPACT

- **For people:** It's important to provide individuals who self-harm during pandemic with the support they need, as they might be more vulnerable to pandemic-related adversities.
- **For policies:** Timely policies are necessary to ensure those who self-harm during pandemics receive the support they need and to reduce the worsening of existing health inequalities.
- **For healthcare professionals:** Regular monitoring, assessments, crisis pathways and targeted interventions are all necessary to reduce the mortality risk of those who self-harm in pandemic times.

## LIMITATIONS

The known quality and completeness issues of routinely collected data may have been exacerbated during the pandemic due to the stretched capacity of healthcare services at the time. This may have also affected the recording of cause-specific deaths, specially for suicide deaths, as these need coroners' inquests. The small sample size for certain conditions limited our ability to performed more detailed analyses and extract stronger conclusions.

*"This study highlights the extent and diversity to which pandemics can affect people's health. It emphasizes the need to focus on vulnerable groups to avoid the exacerbation of pre-existing health inequalities."*

Professor Ann John
Principal Investigator

**To read more about this study,** <u>click here</u>

# Alcohol-Related Hospital Admissions and Suicide Risk: A Large-Scale Cohort Study

## THE PROBLEM

In the UK, suicide is the leading cause of death for young adults (20-35) and middle-aged men (35-49). Men are three times more likely to take their own lives than women, but female suicide rates are increasing. Alcohol misuse is a significant risk factor for suicide, especially for those with alcohol dependence. Emergency hospital admissions related to alcohol could indicate a higher suicide risk, making this a crucial moment to offer intervention and support. This study aimed to explore the association between suicide and alcohol-related hospital admissions.

## THE RESEARCH

We did a study in Wales, UK, where we looked at the health records of 2,803,457 residents aged 10 to under 100 years from January 1, 2006, and followed them for six years. We were interested in understanding what factors might be related to deaths by suicide. The main thing we looked at was whether there was any connection between hospital admissions related to alcohol and the risk of suicide. We checked if people who had been admitted to the hospital for alcohol-related reasons were more likely to die by suicide in the future. We also looked at whether there were any other mental health issues present during these admissions that might play a role. To analyse the data, we used a method called Cox regression, which helps us consider various factors that could influence the results. By doing this, we hoped to find out if there's a link between alcohol-related admissions and the risk of suicide in the population we studied.

## THE RESEARCHERS

**Bethan Bowden**
Researcher
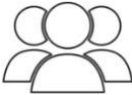
**Professor Ann John**
Principal Investigator

*"These findings are eye-opening and essential for our understanding of the risks associated with alcohol misuse and its impact on mental health. It emphasises the urgent need to ask about mental mental health and suicidal thoughts for those admitted to hospitals due to alcohol-related issues. Identifying and providing timely interventions for at-risk individuals can save lives and improve the well-being of our communities. It's time we prioritise mental health alongside physical health and work collaboratively to prevent suicide and provide better care for those in need."*

**Bethan Bowden**
Researcher

NIHR | National Institute for Health and Care Research

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To read more about this study, click here

# THE OUTCOMES

- During the study period, there were 28,425 hospital admissions related to alcohol. Out of these admissions, 125 suicides occurred.
- People admitted to the hospital due to alcohol-related issues had a high risk of suicide later on.
- Women had nearly three times a higher risk of suicide after such admissions compared to men.
- The risk varied based on the specific alcohol-related reason for admission.
- The highest risk was seen with 'toxic effects of alcohol or poisoning through alcohol' for women (30 times higher risk) and men (18 times higher risk).
- Even patients admitted only for acute intoxication had significantly higher suicide risk: women (22 times higher) and men (5 times higher) compared to those not admitted.
- Patients with both psychiatric conditions and alcohol-related admissions had the highest suicide risk: women (43 times higher) and men (21 times higher).
- Even patients without recorded psychiatric illness had a substantial suicide risk: women (24 times higher) and men (8 times higher) compared to those not admitted.

# THE IMPACT

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|  | • This study raises awareness about the risks of alcohol misuse and its connection to suicide.<br>• This awareness may encourage individuals to seek help for alcohol-related issues and mental health concerns earlier.<br>• Healthcare professionals can identify high-risk individuals admitted for alcohol-related reasons and offer targeted interventions to prevent suicide before they are discharged. |
|  | • Increase support and resources for mental health services, especially in emergency healthcare settings.<br>• Advocate for more funding for mental health programs targeting suicide prevention in individuals admitted for alcohol-related issues.<br>• Implement measures like screening for alcohol misuse and mental health problems during emergency hospital admissions to identify and support at-risk individuals. |
|  | • Healthcare practitioners could assess patients for alcohol misuse and mental health issues during admissions. This identifies suicide risk and provides support during and after hospital stays.<br>• Collaboration between medical professionals and mental health specialists is important.<br>• Integrating mental health services into emergency care may improve outcomes and reduces suicide risk for those with alcohol-related admissions. |

# LIMITATIONS

This study was limited by the lack of potentially important factors in the data, such as information on alcohol-related harm and psychiatric morbidity in subjects not admitted to hospital.



To read more about this study, **click here**

# Additional Studies

# Self-harm and internet use summary

Young people who self-harm spend more time online that others of a similar age. Research has shown that the internet can be an invaluable source of support hosting helpful resources and ways for people to connect with others who share their experiences. However, there are concerns about potential harms including normalisation of self-harm and triggering content. The nature of internet use is constantly evolving with the once popular forums having been replaced by platforms such as Instagram, Tumblr and TikTok. These have increased in popularity for self-harm communities partly because they are image-based. Our systematic reviews (1, 2) have shown that research supports concerns over the potentialfor negative impacts of online content, particularly images This includes access to triggering material, normalisation, sharing of new methods and exacerbation of self-harm over time. However, there are also potentially positive impacts such as seeking and receiving help and support, viewing images as an alternative to self-harm and creation of content as an outlet for negative feelings.

We ran a mixed methods study in collaboration with Samaritans(3) to hear directly from young people about their experiences of self-harm content on social media and, current social media platforms policies. While our study can't claim to represent the whole populations experience of this content, many of the themes point clearly to the way platforms can improve. People want more control over the content they view, ways to ensure children meet age requirements and co-produced safety features. People also talked about the need to strike a balance between censorship and allowing people to talk about their experiences.This research has fed into evidence for the online harms bill and, supports calls for all sites andplatforms to give people more control over the content they see, ensure that suicide and self- harm content is never pushed to users and to improve support available.

1. Marchant A, Hawton K, Stewart A, Montgomery P, Singaravelu V, Lloyd K, et al. A systematic review of the relationship between internet use, self-harm and suicidal behaviour in young people: The good, the bad and the unknown. PLoS one. 2017;12(8):e0181722.
2. Marchant A, Hawton K, Burns L, Stewart A, John A. Images on the internet: A systematic review of studies on the impact of on-line sharing and viewing of self-harm related videos and photographs in young people. JMIR Preprints 30/01/2020:18048. 2020.
3. Marchant A, Lewis, F., Siddiqi, M., John, A. How Social Media Users Experience Self-harm and Suicide Content. 2022.

# Means Restriction of Suicide

Worldwide, suicide is recognised as a significant public health problem. According to the WHO every 40 seconds a person dies by suicide somewhere in the world, and over 800,000 people die by suicide each year. Suicide is the fourth leading cause of death amongst 15–29-year-olds, and 77% of global suicides take place in low and middle-income countries. The most common methods of suicide are ingestion of pesticides, hanging and firearms.Suicides can be preventable and successful prevention strategies need to identify the known risk factors, including mental health disorders, social, psychological, biological, and genetic factors, and adverse life events. Gender and age are also a risk factor, with young men reportedly having higher suicide rates.

Restricting access to means of common suicide methods such as firearms or toxic substances has proven to be a useful strategy in suicide prevention. For example, when a person is experiencing adverse life events and is in a risk group such as depression, restricting their access to means of suicide may increase their chances of survival. It is argued that restricting access to means will only lead to substitution of another suicide method, however, evidence suggests that restricting access to mean during periods of significantly high risk, can potentially lead to suicide survival in the longer term. Our objective is to conduct a suite of reviews to assess the effectiveness of restriction of physical means of access as a method of suicide prevention. These reviews will focus on the method of suicide - jumping, roads, hanging, and using a firearm. As of yet, we have completed two reviews: means restrictions of jumping and of roads [1, 2].

Findings from the jumping review suggest that jumping means restriction interventions can reduce the frequency of suicides by jumping. However, due to methodological limitations of included studies, this finding is based on low-quality evidence. Further well-designed high-quality studies are required to further evaluate the effectiveness of these interventions, as well as other measures at jumping sites.

The roads review identified no studies that met the inclusion criteria. This highlights the paucity of research around road traffic suicides and the need for future robust studies that aim to investigate the effectiveness of interventions to prevent suicide on roads.

1.    Okolie, C., et al., *Means restriction for the prevention of suicide by jumping.* Cochrane database of systematic reviews, 2020. **2020**(2).
2.    Okolie, C., et al., *Means restriction for the prevention of suicide on roads.* Cochrane database of systematic reviews, 2020(9).

# Severe Mental Illness (SMI) and premature mortality

People with a severe mental illness (SMI) suffer tremendous health and social inequalities due to their conditions. Studies looking into these inequalities were commonly based in hospital data, with some using primary care data, and only a small minority using both data sources. This can limit the ability to identify the population with SMI, thus affecting the quality of the research.

We linked primary care and hospital admission data, as well as demographic and administrative data for the whole population of Wales since year 2000. This helped us identify a larger proportion of the population with SMI and follow them up for a long period of time, thus strengthening our results. Using these data, we looked at the time and cause of death for people with SMIs, and compared these with what we observe in the general population. We found that SMI patients were 13 times more likely to die by ill-defined and unknown causes, and 12 times more likely to die by suicide than the general population, as well as other less common and often under-reported causes of death. We also looked at whether SMI patients move from less to more deprived areas and from rural to urban areas, or those living in more derived and urban areas are at a higher risk of developing SMIs. Here we found that risk of SMIs is associated with high deprivation and urban areas. On the other hand, while people with SMIs are more likely to move compared to the general population, they did not preferentially move to more deprived or urban areas.

These studies demonstrate the value of combining primary and secondary care data in describing SMIs. Our findings have broad policy and practice implications, addressing poverty, social and environmental contexts, and the inequalities suffered by SMI patients. For example, it may be worth reflecting on investing, targeting and delivering lifestyle interventions to improve physical health care for people with SMI in secondary care settings, as well as on the allocation of resources, service configuration and access to services in deprived communities.

1. Lee, S., Del Pozo - Banos, M., Lloyd, K., Jones, I., Walters, J., Owen, M., O'Donovan, M., & John, A. (2020). Area deprivation, urbanicity, severe mental illness and social drift — A population-based linkage study using routinely collected primary and secondary care data. Schizophrenia Research, 220, 130-140. https://doi.org/10.1016/j.schres.2020.03.044
2. John, A., McGregor, J., Jones, I., Lee, S., Walters, J., Owen, M., O'Donovan, M., Del Pozo-Banos, M., Berridge, D., & Lloyd, K. (2018). Premature mortality among people with severe mental illness — New evidence from linked primary care data. Schizophrenia Research, 199, 154-162.https://doi.org/10.1016/j.schres.2018.04.009,